DOCUMENT RESUME

ED 357 894 PS 021 564

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TITLE A Review of the Effects of Extra-Year Kindergarten Programs and Transitional First Grades.
INSTITUTION Center for Research on Effective Schooling for Disadvantaged Students, Baltimore, MD.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO CDS-R-41
PUB DATE Nov 92
CONTRACT R117R90002
NOTE 29p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Ability Grouping; *Academic Achievement; Academic Failure; Grade 1; *Grade Repetition; High Risk Students; *Kindergarten; *Kindergarten Children; Literature Reviews; Primary Education; *School Readiness; *Transitional Programs
IDENTIFIERS *Extra Year Programs (Kindergarten)

ABSTRACT

This review examines the effects of three educational practices on children's readiness for first grade. The practices, kindergarten retention, developmental kindergarten, and transitional first grade, are intended to provide children with an early extra year to give them more time to prepare academically and socially for regular first-grade classrooms. The review is primarily based on studies that compared students who were placed in these programs with students who were recommended for placement but whose parents refused to place them in the program. The studies employed same-grade or same-age comparisons. Three studies on kindergarten retention indicated that there was a favorable result of retention on children's academic achievement in the year of retention, but that the effects did not persist. Two longitudinal studies of developmental kindergartens revealed a similar pattern of positive effects on children's academic achievement in the year spent in developmental kindergarten, followed by a fading of positive effects over time. The results of the seven studies reviewed on transitional first grades did not support the practice's long-term effectiveness as an educational intervention. The review concludes that none of the practices was more effective than simple promotion. Whether given an extra year or promoted, children with academic and maturation problems continued to have academic difficulties through the elementary grades. (TJQ)

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A Review of the Effects Of Extra-Year Kindergarten Programs And Transitional First Grades

Nancy L. Karweit and Barbara A. Wasik

Report No. 41

November 1992

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Published by the Center for Research on Effective Schooling for Disadvantaged Students, supported as a national research and development center by funds from the Office of Educational Research and Improvement (OERI), United States Department of Education (R117R90002). The opinions expressed in this publication do not reflect the position or policy of OERI, and no official endorsement should be inferred.

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The Center

The mission of the Center for Research on Effective Schooling for Disadvantaged Students (**CDS**) is to significantly improve the education of disadvantaged students at each level of schooling through new knowledge and practices produced by thorough scientific study and evaluation. The Center conducts its research in four program areas: The Early and Elementary Education Program, The Middle Grades and High Schools Program, the Language Minority Program, and the School, Family, and Community Connections Program.

The Early and Elementary Education Program

This program is working to develop, evaluate, and disseminate instructional programs capable of bringing disadvantaged students to high levels of achievement, particularly in the fundamental areas of reading, writing, and mathematics. The goal is to expand the range of effective alternatives which schools may use under Chapter 1 and other compensatory education funding and to study issues of direct relevance to federal, state, and local policy on education of disadvantaged students.

The Middle Grades and High Schools Program

This program is conducting research syntheses, survey analyses, and field studies in middle and high schools. The three types of projects move from basic research to useful practice. Syntheses compile and analyze existing knowledge about effective education of disadvantaged students. Survey analyses identify and describe current programs, practices, and trends in middle and high schools, and allow studies of their effects. Field studies are conducted in collaboration with school staffs to develop and evaluate effective programs and practices.

The Language Minority Program

This program represents a collaborative effort. The University of California at Santa Barbara is focusing on the education of Mexican-American students in California and Texas; studies of dropout among children of recent immigrants have been conducted in San Diego and Miami by Johns Hopkins, and evaluations of learning strategies in schools serving Navajo Indians have been conducted by the University of Northern Arizona. The goal of the program is to identify, develop, and evaluate effective programs for disadvantaged Hispanic, American Indian, Southeast Asian, and other language minority children.

The School, Family, and Community Connections Program

This program is focusing on the key connections between schools and families and between schools and communities to build better educational programs for disadvantaged children and youth. Initial work is seeking to provide a research base concerning the most effective ways for schools to interact with and assist parents of disadvantaged students and interact with the community to produce effective community involvement.

Abstract

This review examines the effects of three educational practices that provide children with an extra year in kindergarten -- retention in kindergarten, placement in developmental kindergarten, and placement in transitional first grade. In each of these practices, children receive an early extra year to prepare them for regular first-grade classrooms. The review is primarily based upon studies that identified a control group and provided information to indicate who was being compared, when the comparison was being made, and what tests were used. The review finds no evidence that kindergarten retention, developmental kindergarten, or transitional first-grade programs are more effective than simply promoting the children into first grade. In both cases -- whether given an extra year or whether promoted -- children with academic and maturation problems continue to have academic difficulties through the elementary grades.

Introduction

How to best provide an appropriate learning environment for kindergarten aged children who are "not ready" to begin school is a perennial issue faced by schools and parents. Despite the universality of the problem, there are few agreed upon solutions and much debate over the definitions and conceptualizations of "readiness." This report reviews the research on one approach for the non-ready child -- providing an extra year of kindergarten, either through developmental kindergarten, retention in kindergarten, or transitional first grade.

The meaning of being "not ready" varies from school to school, but incorporates dimensions of social and academic immaturity such as impulsiveness, inattentiveness, fidgetiness, poor social and emotional adjustment, and inability to recognize and name colors, letters and numerals. Various tests and procedures are used by individual districts to determine which children are "not ready." Being not ready in Baltimore probably is defined differently than it is in Boston or in Denver. Readiness is therefore situationally, not universally, defined.

In fact, there is substantial disagreement concerning the readiness construct. Critics argue that readiness is poorly measured by most tests designed to measure it (Cunningham, 1989). In addition, even if test validity and reliability were not an issue, focusing on children's readiness for school helps foster the view that schools need only worry about educating children when they are ready. In fact, schools must be ready for *children*; they are charged with educating all children, not just those who meet certain standards.

In addition, the practices aimed at accommodating student diversity vary greatly from place to place. In some districts, all students are placed in the same kindergarten curriculum, regardless of readiness status; in others, special tiers or kindergarten tracks are created to accommodate student diversity. The prevailing view of child development and the belief in the possibility of intervention probably exert an appreciable influence on these practices.

In particular, districts following a maturational view of child development, such as that proposed by the Gesell Institute, will consistently be in favor of approaches which define readiness in terms of developmental, not chronological age, and will favor programs which allow children "more time" as a strategy for getting ready. Following this philosophy, there is little point in intervening to remediate "non-readiness" because the child's development has its own timetable which cannot be hurried up or altered. Approaches which are consistent with this point of view do not try to remediate deficiencies, but allow the child more time to develop. Typically, these approaches involve providing the non-ready child the "gift of time" in the form of an extra year prior to first grade. Such programs as transitional first grades, developmental kindergartens, and kindergarten retention follow this maturational point of view.

The number of children who take an extra year in kindergarten is considerable. Meisels (in press) reports that in North Carolina in 1989, 8.6 percent of the students were retained and that kindergarten retention rates in California ranged from 0 to 50 percent.

Critics of the "gift of time" approach argue that the only thing that will happen while one is waiting for children to "mature" is that they will fall more and more behind their agemates. In addition, the criticism is voiced that these extra-year programs do not in fact bring children up to the same level as their peers, whether one is looking at children who are held back due to academic delays or behavioral immaturity (Shepard and Smith, 1986).

Despite these criticisms of extra-year programs, many districts remain convinced that immature or academically "not ready" children will benefit from an extra year in kindergarten.

Extra-year programs vary depending upon when the decision for additional time is made and the nature of the program. Students may be selected into programs prior to the entrance to kindergarten (developmental kindergarten) or after kindergarten has been completed (retention and transitional first grade programs). Programs may either be differentiated (developmental kindergarten and transitional first grade) or may present the same material and use similar methods (kindergarten retention). Because of these differences in the timing and the focus of the programs, it is appropriate to consider the effects of these programs separately.

Are any of these programs effective for students who seem to be at risk of future school failure? What evidence is there to support the use of extra-year programs? What evidence is there to show that these programs are ineffective or harmful? In comparison to the extensive literature on retention in elementary school, there are relatively few reviews of kindergarten extra-year programs. Perhaps the most influential review is that of Shepard (1989), which concludes that none of the extra-year programs are effective.

Despite the definitiveness of this conclusion, several issues remain unsettled by the Shepard (1989) review. First, the type of program was not considered as a factor. Separate analyses were not conducted for the three program types -- kindergarten retention, transitional first grade, and developmental kindergarten.

Second, in arriving at this conclusion of ineffectiveness, studies were combined which used different bases of comparison. Some studies compared students after equal time in school but at different ages, while other studies used same age, but different grade comparisons. This is always a dilemma in studies of retention; should retained students be compared to their original (promoted) classmates or to their new, younger classmates? Because these bases of comparison are looking at very different outcomes, it is not appropriate to combine these different studies.

Finally, we need to pay attention to possible differences in effects for students of different backgrounds and competencies. In this study, we therefore examine extra-year programs for differential effects due to program type, basis of comparison, and student characteristics.

We group studies into those looking at effects of retention, at developmental kindergarten, and at transitional first grade. Within these categories, we explore whether different effects are noted for specific groups of students. In particular, we examine whether there is any evidence that extra-year programs are more effective for immature students than for academically delayed students. The basis of comparison, that is, which students are being compared, on what measure and at what time interval, is also identified.

We note that districts may have specific objectives which influence the choice of the basis of comparison used in the evaluation. For example, if a district is interested in giving students an extra year to catch up with their regular classmates, the success of that program may be judged by comparing the attainments of the extra-year students to regular progressing classmates in the same grade who make normal progress.

A more usual method to create a matched comparison group is to create a comparable "potential failure group" of students eligible for extra year but who did not participate. The progress of those experiencing the extra-year program and those who were promoted are then compared. The same grade comparisons compare children after the same grade (unequal age); the same age comparisons compare children after equal age (unequal grade). Table 1 depicts same age and same grade comparisons.

Table 1 Here

Several issues complicate the creation of a matched control group in studies of extra-year programs. First, the potential failure group, created from a pool of students who

were eligible but whose parents refused the placement, is not an equivalent group to those who experienced the extra-year placement. The fact of parental refusal probably indicates a pre-existing difference in parent involvement and child rearing practices which may affect children's success in school (Powell, 1991) -- thus the promoted students will probably do as well or better than the extra-year students in part because the groups were really not equivalent at the outset.

Second, same age comparisons and same grade comparisons address different issues. Often, results are collapsed across both of these issues. The same grade comparison, because it is looking at students of different ages, addresses the question of comparability of performance at the same grade level, irrespective of age. This will likely favor the older, retained student, who is often taking the same test for a second time. Typically, grade norms -- not age norms -- are used, so that the older students have an advantage in this comparison.

Studies which use same age comparisons may also be problemmatic. It is often unclear whether the same or different test is being given to the students who are the same age, but are in different grades. If the students take the *same* test, then the promoted students will probably perform better because of their exposure to more advanced material. If the students take *different* tests, then interpreting the comparability of the two tests is an issue.

In this review, we look primarily at studies which identified a control group and provided information to indicate who was being compared, when the comparison was being made, and what test was used. We emphasize again that the adequacy of the control group is a central problem limiting the usefulness of most studies of extra-year programs and transitional first grade programs.

Kindergarten Retention

Three adequately controlled studies were located which contrasted students who had been retained in kindergarten with those who had been recommended for retention but whose parents refused retention. In all three studies, students were compared at the end of the first grade. The studies used same grade comparisons -- the nonretained students were younger than the retained ones.

Shepard and Smith (1985,1987) compared academic and other outcomes of a matched sample of 40 students in a Colorado district. They matched schools within the district on SES level, percent of students for whom English was a second language, and historical differences in retention rates. Ten such schools were paired, five high-retaining schools with five low-retaining schools. Within each school, retained and non-retained students were matched on Santa Clara Inventory score, sex, birth date, kindergarten readiness, eligibility for free lunch, and use of language other than English.

The study looked for global effects of extra-year programs, combining students who were in developmental kindergartens or transitional first grades or who were retained in kindergarten. Separate analyses by type of program were not presented. Matching was done of children in the same school, but children across schools, and therefore programs, were combined into this sample; thus the Shepard and Smith analysis was not designed to find different effects by program. The overall population in this study was achieving at about the national average.

The study compared the academic progress of these 40 matched pairs on several dimensions at the end of first grade. The researchers examined differences in CTBS reading and math, teacher ratings of reading and math performance, social maturity, learner self-concept, and attention. They found that "on all but one outcome measure, there were no differences."

The significant difference was detected between the two groups on the CTBS reading test. The effect size was +.41, indicating that the retained students scored 41 percent of a

standard deviation higher than their younger, unretained counterparts. Although the magnitude of this effect might suggest an educationally significant difference, the difference between the two groups amounted to a difference between the 63rd percentile and the 56th percentile or a grade equivalent of 1.9 vs 1.8.

Shepard and Smith conclude that an extra year in kindergarten is not effective. But it is important to keep in mind that they did find a statistically significant difference in reading which went against the proposed hypothesis and that the study combined several types of extra-year programs, not just kindergarten retention.

Mantzicopoulos and Morrison (1991) examined the effects of kindergarten retention using 53 pairs of students who were retained and promoted and who were matched on school, sex, birth date, SES, reading, and at-risk status (as measured by a screening device for learning disabilties called SEARCH). They followed this sample of children through the first and second grades and carried out analyses after equal time in school as well as equal grade. The same grade comparisons and the same age comparisons favored the retained students in the first year of the comparison and showed no differences in the second and third years.

At the end of the kindergarten year, after the retained children had been in kindergarten the second time, the retained children scored significantly higher than their non-retained peers (ES = +1.95 for reading). But the advantage of the retained group did not continue into the first and second grades (ES = +.11 and +.08, respectively). A similar pattern appeared for math. These comparisons do not support the effectiveness of kindergarten retention for long-term improvement of academic difficulties.

Mantzicopoulos and Morrison also carried out same-age comparisons. These comparisons contrast students at the same age, who are in different grades due to the kindergarten retention. Because different tests were being compared, the metric used was expressed as the number of standard deviation units above or below the mean on the reading and math tests. The same age comparisons indicate a positive effect for retention (F=20.60 in reading and F=11.28 in math). This compares the relative performance of students at the end of the retained kindergarten year with those who went ahead to first grade. The comparison of first and second graders was not significant, indicating that whatever advantage retention may have provided did not continue into the next year.

Mantzicopoulos and Morrison also compared the retained and promoted students on teacher ratings on the Revised Behavior Problem Checklist (Quay and Peterson, 1987). The retained group were rated as demonstrating significantly more immaturity and behavior problems than their same-age peers during the first year in kindergarten. This initial difference faded during the second kindergarten year, when the two groups were not rated differently by their teachers.

The matched comparison groups, the authors note, were not matched on behavior rating. In fact, it was impossible to construct a matched sample given this added matching variable because children could not be matched simultaneously on all the variables. This suggests that the behavior problem may have been a factor in the retention decision. Further, the authors speculate that retention may have helped the behavior problems. But, because there was not a sample of students matched on inattention and immaturity in both treatments, it is not known if the same decline in behavioral problem ratings would have occurred if the retained children had been socially promoted.

An earlier study by Turley (1979) compared retained students with a recommended-but-refused-placement matched control group. In this study, the children were recommended for retention on the basis of their score on a developmental test which included subtests from the Stanford Binet, WISC, Detroit Tests of Learning Ability, Monroe Readiness, WRAT and Gesell inventory.

Turley compared the students' progress at the end of first grade to that of their younger

classmates (equal grade, unequal age). The retained group scored significantly higher than the promoted group on the SAT reading (ES = +.84) and math (ES = +.98) scales. Turley's overall population was primarily upper SES, high-performing children. The grade equivalent scores for the retained and nonretained groups were 2.8 and 1.8 for reading and 2.9 and 2.0 for math. He did not follow up the children into later grades so it is not possible to know if these effects vanished with time, as did the effects detected by Mantzicopolos and Morrison.

Table 2 summarizes the results for studies of kindergarten retention. The studies reviewed here included those studies which had an identifiable control group, provided a clear indication of what groups were being compared, and indicated whether same grade and/or same age comparisons were being used. Across the three controlled studies, the results indicate that there is a favorable result for kindergarten retention on academic achievement in the year of retention. However, these effects do not persist. This suggests that the main longitudinal effect of retention is that the retained children are one year older than their classmates.

Table 2 Here

Developmental Kindergarten

Developmental kindergarten refers to the practice of screening entering kindergarten students in specific developmental areas (e.g., visual, motor, language, behavior, social, emotional) and placing students in differentiated kindergartens on the basis of this assessment. The actual practices vary from place to place, but typically involve placement of developmentally immature children into a two-year route to first grade. The first year in kindergarten, often termed young kindergarten or junior kindergarten, may be similar in organization and emphases to nursery schools or other pre-kindergarten programs. In the second year, before first grade, these "young kindergartners" (now actually "old kindergartners") may join a regular kindergarten class of younger students or, in some versions of this practice, may attend a second year of alternative kindergarten.

Developmental kindergarten is based on the belief that children should be placed in school on the basis of developmental, not chronological, age. Because rates of development are so varied, children of the same chronological age may vary widely in their developmental age. In addition, a child may have uneven rates of development across developmental areas, being advanced in some areas and delayed in others.

The Gesell Institute promotes developmental screening and placement. Many districts use the Gesell Preschool Readiness Test as the basis for placement decisions. This test has been criticized on several grounds, including its lack of appropriate psychometric properties and its overlap with IQ tests (Kaufman, 1985).

Developmental screening and placement are based on a belief in a nativist, maturational view of child development. In this view, growth and development are determined by the child's inner timetable, and there is little point in "rushing" or interfering with the timetable by early intervention. Thus the best environment and best practice schools can follow for these immature children is the "gift of time." Interference with the process of development, in this view, is not only wasted effort, it may be injurious to children. Developmental placement allows children's development to unfold at its own pace.

There are no current data on the prevalence and characterisitics of developmental kindergartens in the United States. States and districts seem to vary greatly in the use of this practice. However, the practice is receiving a growing body of criticism. Part of the criticism is derived from the current general negative reaction to retention and with the equating of developmental kindergarten

with retention (Shepard and Smith, 1986). Shepard (1986) lumps developmental kindergarten into the general practice of retention and concludes "it is still retention -- and still ineffective."

Only two studies of developmental kindergartens have used a clearly identifiable control group (May and Welch, 1984; Banerji, 1990). Both studies matched students placed in developmental kindergarten with students recommended for placement but whose parents refused placement. The children were followed longitudinally.

May and Welch (1984) compared the achievement of students who were screened using the Gesell instrument and placed in developmental kindergarten with those who were recommended for placement but refused and went to regular kindergarten. The sample consisted of 223 students in grades 2 through 6. Students were classified into three groups: TR, the regular attending kindergartners, not recommended for placement; BAY (for buy a year), the developmentally placed students ; and the OP (for "overplaced") children, recommended for placement but refusing it. The basis for developmental placement was the Gesell screening test. The OP children had a significantly higher developmental score than the BAY children, indicating that the groups were not equivalent at the outset.

The BAY students in the developmental kindergarten were a year older than the comparison students on all posttest comparisons. At the end of the kindergarten year and at the end of the first grade, the initial differences remained. By the end of the third grade the BAY children still were the lowest group of the three, even though they were a year older. Thus, the additional year did not reduce the performance gap between the TR and BAY children or overcome the initial differences the BAY children had with respect to the OP children. Standard deviations were not presented in this article, so computation of effect sizes is not possible.

Banerji (1990) reports on a four-year longitudinal study of the effects of placement in developmental kindergarten. She matched 34 pairs of students on ethnicity, SES, gender, age, and school achievement at school entry. She compared the achievement of these students at the end of grade 1, grade 2, and grade 3, both to younger students of the same grade and to students of the same age. She found positive effects for attending the program at the end of the first grade, but found that these effects were not sustained in grades 2 and 3. The same-grade comparisons yielded an effect size of +1.92 favoring the developmental kindergarten attenders in the first year. The same-age comparisons also favored the developmental kindergarten group with an effect size of +.82. On neither of these comparisons were effects sustained into the second and third grade; the differences were no longer significant after the first grade.

These studies of developmental kindergarten suggest that the two-year route to first grade provides at best a temporary boost in academic achievement, followed by a fade out. If developmental kindergartens placed only a small number of students, one might argue that a temporary boost could be beneficial, or at least not harmful. However, districts may developmentally place a third or more of their students (Remmey and McIlhenny, 1987). Certainly, the current and usual dire financial straights of many school districts, coupled with the demonstrated lack of sustained effects for developmental kindergartens, lead one to question the wisdom of providing two years of kindergarten for as many as one-third of the students.

Although a belief in the positive effects of developmental kindergarten on children's self-regard is often used as a justification for the practice, we are unaware of any controlled study which has actually examined the effect of these programs on this aspect of children's development..

Table 3 summarizes the results for these two controlled studies. Developmental

kindergarten, although involving screening prior to kindergarten attendance, has a pattern of effects similar to kindergarten retention -- positive effects in the year of retention followed by a fade out over time.

Table 3 Here

Transitional First Grade

Many districts offer a transitional program between kindergarten and first grade. Children attend regular kindergarten, but then are placed in a transitional first or other "half-step" program prior to first grade.

Children are often placed in transitional first grades because they are developmentally immature or because they are felt not to be academically ready for first grade. Transitional first grade classrooms are often smaller in size (15 or so students) and may use alternative curricula. Transitional first grades vary among themselves in actual practice and intent, in some cases being more a remedial program and in other cases being more an intervention or alternative program.

Our examination of studies of the effects of transitional first grade excluded these which did not use a control group. The matched control group was usually comprised of children for whom transition had been recommended, but whose parents had refused placement. In some cases a control group was made up of children who were deemed eligible for placement but for whom there was no available program.

Raygor (1972) compared the achievement of third and fourth graders in a suburban district who had used different routes to the first grade, including a transitional first grade, kindergarten retention, and regular progression. This study used both same-grade and same-age comparisons. Raygor first compared children who had attended transitional first with those who had been retained in kindergarten. There were no differences on any dimensions between these groups on measures taken at the end of first and third grades. Raygor concludes that kindergarten retention and transitional first grade, at least as practiced in this district, had equivalent effects.

In subsequent analyses, these two extra-year groups were grouped together. At the end of grade 1, the transitioned/retained group was significantly higher in achievement than a "potential failure group," a group identified as possible candidates for retention or transition. The potential failure group averaged 1.5 grade equivalents while the transitional and retained groups were 2.6 and 2.8, respectively. Of course, the transitional and retained groups were taking the same test a year later so the higher tests scores are not too surprising. Computing the average effect sizes across these six subtests provides an estimate of +.77 for the effect of an extra year.

At the end of her study, when the transitional and the retained students were in grade 3 and the potential failure group was in grade 4, teacher ratings of the children's ability and competencies were similar except that the teachers rated the reading ability of the retained/transitioned group higher than that of the potential failure group. However, the potential failure group's actual achievement at the end of the fourth grade was almost identical to that of the regular fourth graders, while the actual achievement of the retained and transitional groups, at the end of the third grade, was lower than that of the regular third graders (who were a year younger).

Raygor's study suggests three conclusions: 1) kindergarten retention and transition at first grade have similar effects; 2) there is a boost and then a fade out effect for an extra-year program when children are compared at the same grade, and 3) the potential failure children do catch up to their regular classmates.

Caggiano (1984) compared the achievement and behavior of children in a suburban New Jersey district who had been in a transitional

program. Using the Iowa Test of Basic Skills, he found that the performance of the transitional and matched potential failure group were similar at grades 2, 4 and 6, and that both lagged behind the regularly promoted students. For the second grade, the students performed at the 81st, 78th and 87th percentiles respectively; at grade 4, these numbers were 74, 74, and 85; and at grade 6, they were 73, 74, and 85. He also compared these different groups on teacher ratings using the Revised Behavior Problem Checklist. No clear pattern was discernible for transitional first grade on the dimensions of this checklist (motor excess, attention problems, conduct disorder, and anxiety withdrawal).

Caggiano's results suggest that there is a small, non-significant advantage to transitional first grade which rapidly fades, despite the fact that the transitional students are a year older than the potential failure comparison group. His study also suggests that neither the transitional students nor the potential failures catch up with the regular students. However, we note that these children were performing at a relatively high level initially.

Carlson (1988) compared the ratings on the Walker McConnell scale of students who were eligible for transition classes and did not attend with those who were eligible and did attend. The students compared were of the same age and had spent an equal time in school. He found positive effects for the transition students on teacher's perception of positive student behavior (ES = +.76).

Bell (1972) examined the role of transition room placement and attendance on student self-esteem and achievement. She compared students having the transition room experience with those who were identified as being in need of a transition room, but who attended a school where none was available, using a same age comparison. The students in the transitional room scored lower than their counterparts in the first grade classroom; similarly, at the end of the second year, the students in the first grade scored lower than those in the second grade. The only significant difference, however, was in a test of word reading. This study looked only at same age comparisons; we therefore do not know how these students compared when they were in the same grade.

Bell also found that the children who were in the transitional room experienced a significant decline in self-concept, which was not experienced by the promoted children. Bell's study is one of the few to examine effects of extra-year placement on children's self-concept. Contrary to the usual prediction of positive effects on children's self-esteem, Bell found a negative one for placement in transitional first grade programs.

Mossburg (1987) carried out a same-grade comparison for children who were in transitional first grades and a matched potential failure group. All children who attended a district in a mid-size midwestern town were included. The students covered a range of socio-economic levels. The matching characteristics were sex, SES, and ability.

At the end of grade 1, the transition group was slightly higher than the potential failure group on the composite Stanford Achievement Test, although these differences were not statistically significant. Starting at grade 2 and continuing through grade 4, the differences between the two groups were significant and favor the potential failure group, with effect sizes of -.37, -.48 and -.58. That is, the same grade comparisons in this case favor the promoted students despite the fact that they are a year younger than the transition students. Further, at the end of fifth grade, teachers judged the potential failure students to be significantly higher than the transitional students on behavioral characteristics that reflect social, emotional, and academic readiness for middle school.

Matthews' (1977) study used a number of different control groups. He identified five distinct groups of second and third grade children. The experimental children were those who had gone through a transitional first grade that had a maximum class size of 15, individualized instruction, and placement on the basis of diagnostic testing. Four

comparison groups were identified: Group 1 consisted of children who had been identified for transition, but who were not placed either because space was unavailable or because of parental refusal; Group 2 was a group of normally progressing and achieving students; Group 3 consisted of students who were retained in the first grade, and Group 4 consisted of students who entered kindergarten a year later than the experimental and other control groups.

The tests used were the Gates-MacGinitie (second grade) and the California Achievement Test (third grade). Gredler (1984), based on Matthews' results, contends that retention is not effective. He compares the achievement of the experimental children to the regular children and notes that they were unable to catch up. However, if we use the more traditional criteria of comparing the children to children with a like starting point, a different story emerges. Using same grade comparisons, we find a positive effect of retention on both tests (ES = +.66 and +.74 for second grade and third grade, respectively). Comparisons of those retained in first grade also show positive effects for transition (ES = +.66 and +.88, respectively).

Thus, although the students who were in transitional classes did not catch up with the classmates who were not deemed in need of transitional classes, they did perform better, using the same grade as a comparison, than their classmates who were recommended and who went on, and better than those who were retained in first grade. In contrast to most such studies, these results persist into the second and third grades. However, Matthews does not provide evidence of initial comparability among the different groups, so we do not know the extent to which the continuing differences reflect these initial differences.

Leinhardt (1980) compared three groups of transition eligible students. One group attended the transition class, a self-contained, alternative program (n=44). A group of transition eligible students who refused placement went into first grade anyway (n=32). Some of these students received the regular, basal instructional program (n=23), while others received an individualized reading approach (n=9). At the start of the year, all students took a screening test; the three groups did not differ from each other on the screening test, but did differ significantly from the students attending regular first grade. At the end of the year, these same students were given the SAT total reading battery. The scores on this test indicated that the regular first graders scored the highest (mean = 99.7) followed by the students in the individualized reading program (mean = 71.3), the students in the regular first grade (mean = 56.3) and finally by the transition room attendees (mean = 49.9).

These statistics support two conclusions: (1) using a same age, different grade comparison, the transition room attendees did not fare as well as the children who went on to regular first grade, and (2) the students receiving the individualized reading program in the first grade fared best, but these children still scored about one standard deviation below the mean for the first grade. Thus, although the promoted group did better than the transitional group, neither group caught up with the rest of the class.

These studies of transitional first grade, summarized in Table 4, support the following conclusion. In most studies which used same grade comparisons (Matthews, Caggiano, and Raygor, but not Mossburg), the students in transitional programs had higher achievement than their younger classmates in the first grade, but these effects faded after the first grade. In studies which used same age comparisons (Bell, Raygor and Leinhardt) the effects were either zero or favored the promoted children. Thus these studies do not support the long-term effectiveness of transitional first grade as an educational intervention.

Table 4 Here

Looking across the separate extra-year programs, there is no evidence that kindergarten retention, developmental kindergarten, or transitional first grade programs are more effective than simply promoting the children. But this conclusion does not suggest that these children should simply be promoted in hopes that their problems will go away. The longitudinal evidence does not support this approach. Students who were retained, either by kindergarten retention, developmental kindergarten, or transitional first grade -- as well as children who were not retained even though they were recommended for retention -- continue to show academic difficulties into the elementary grades.

They do not, in short, outgrow their academic problems by buying a year, and they do not circumvent their academic problems by being promoted anyway. These children continue to lag behind their peers. They need long-term, continued intervention and supportive help as it's required to progress regularly through their schooling: they do not benefit from an additional year waiting to mature or a frustrating extra year in the same grade.

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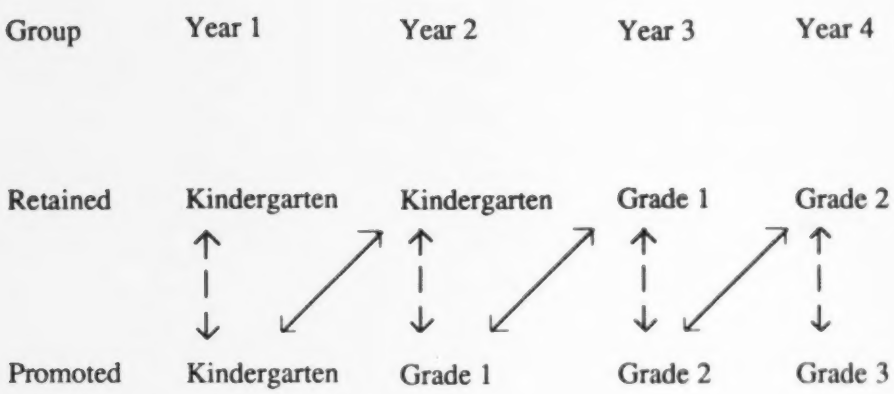
Table 1

Basis Of Comparison in Extra-Year Studies



Solid lines indicate same grade comparison: dotted lines indicate same year comparisons.

Solid lines represent same grade, different time comparisons;
Dotted lines represent same time, different grade comparisons

Table 2
Studies Comparing Kindergarten Retention to Equivalent Controls

Study author(s) and date	Sample	Matching factors	When compared	Measures compared	Effect Sizes retained vs. promoted	Notes
Shepard & Smith (1987)	40 matched pairs who had either been retained or promoted in Kindergarten	Schools matched SES and on percent English as a second language and paired to contrast school with different retention rates. 10 schools thus paired, 5 high retaining with 5 low retaining students withn school pairs were matched on Santa Clara score, sex, birth date, K readiness, free lunch, language other than English and contrasted on retention	First Grade Same Grade, Unequal Time	Teacher Ratings Reading Math Social Maturity Self Concept Attention CTBS Rdg CTBS Mth	 +.11 NS +.09 NS +.14 NS +.29 NS +.07 NS +.41 p<.05 -.17 NS	"On all but one outcome measure, there were no differences" CTBS reading is statistically different
Turley (1979)	Comparison of those retained in K with those recommended for retention but refused. High SES district.	PEPP (contains draw a person, visual-motor, VMI & WISC)	First grade Same Grade, Unequal Time	SAT reading SAT math	End first grade +.84 (p<.00) +.98 (p<.00)	Conclusion: Favors retention

Table 2 (cont'd)
Studies Comparing Kindergarten Retention to Equivalent Controls

Mantzicopolis & Morrison (1991)	Comparison of those retained in K with matched non-retained group.	School, sex, age, SEARCH, SES, reading, & match ach.	First Grade & Second Grade Same Grade, Unequal Time	SAT reading SAT math CTBS reading CTBS math Z scores	K 1.95 ($p < .0001$) G1 .11 (NS) G2 .08 (NS)	Conclusion: Favors retention end K, fades out by grade 1 & 2. Extra year K gave children chance to improve behavior, mature socially

Table 3
Studies Comparing Developmental Kindergarten to Equivalent Controls

Study author(s) and date	Sample	Matching factors	When compared	Measures compared	Effect Sizes retained vs. transit			Notes
					Developmental	Traditional	ES	
Banerji (1990)	34 matched pairs (N=68) with 4 year follow up data	Schools matched on geographic location, by proportion of free lunch and by presence/ absence DK. Students from DK and non-DK individually matched on ethnicity, SES, gender, age, and SESAT at entry to school	Same grade					
			Grade 1	SAT (NCEs)	50.46	33.23 (P<.05)	+.79	Two year program benefits children at beginning of first grade but effects are short-lived
			Grade 2	SAT (NCEs)	50.76	45.51 NS		
			Grade 3	SAT (NCEs)	44.69	43.40 NS		
	Study of two year Kindergarten program with developmental placement (DK)		Same age					
			Year 2	SAT (NCEs)	76.68	33.23 (P<.05)	+2.06	Large boost in NCEs due to taking test again and being a year older
			Year 3	SAT (NCEs)	50.46	45.51 NS		
			Year 4	SAT (NCEs)	50.76	43.40 NS		
May OP>BAY & Welch (1984)	233 students in in grades 2-6 in suburban homogeneous mid class	Gesell Screen used to identify eligible students, OP (refused) and BAY(Buy a year)	Beg K (same age)	Gesell	55.50	57.93		non-equivalent groups
			End K (same grd)	Gesell	69.91	65.36		Differences maintained throughout third grade
			End 1 (same grd)	Gesell	70.05	74.50		
			End 3 (same grd)	Gesell	59.29	64.96		
			End 3 (same grd)	Stanford	143	151		

\+ = effect retention
\- = effect promotion

Table 4
Studies Comparing Transition Eligible but Refused to Transition Eligible and Complied

+ = effect retention
- = effect promotion

Study author(s) and date	Sample	Matching factors	When compared	Measures compared	Effect Sizes retained vs. transit	Notes
Raygor (1972)	"Potential failures", students recommended for retention in K whose parents refused and eligibles who were either retained in K or attended transitional 1st	Candidates for retention (n=30) vs those retained in K (n=30)	End grade 1 (unequal time same grade)	Stanford Ach (different ages) same grade	Retained/transition vs promoted +.77 average across six subtests on the Stanford Ach test show positive effects for extra year	At end of first grade year, transition/retained students have spent an additional year in school. They do score higher on the Stanford Achievement test at the end of the first grade than their younger counterparts who were not retained
Carlson (1988)	59 Kindergarten students who were identified as good candidates for K-1 transition class were followed up 4 years later, 43 were found. 21 not retained (NR) 22 retained (R) K or 1 NR sample grade 3 R sample grade 2	Eligible, identified for participation K-1 class	Compared after equal time but not same grade (grade 3 for non-retained, grade 2 for retained)	Walker McConnell Ratings teacher pref soc beh Peer pre soc beh Sch adj beh Total	Retained/transition vs promoted + .57 ns - .08 ns +1.06 $p<.01$ + .72 $p<.01$	Positive effects for retention on letter sound and teacher perception

Table 4 (cont'd)
Studies comparing transition eligible but refused to transition eligible and complied

Study author(s) and date	Sample	Matching factors	When compared	Measures compared	Effect Sizes transition vs promoted		Notes
					+ 1 yr	+ 2yr	
Bell (1972)	Students identified as in need of readiness room but who attended a school where one was not available	Students in readiness program in six schools (64), regular instructional program in one school (12 students)	Same age and time but in different grades. Comparison of readiness room attendees and regular class attendees	SESAT II			SESAT ns diff except on word reading which favored the students who were promoted
				environment	-.16 ns		
				mathematics		-.06 ns	
				letter/sounds	-.38 ns		
				aural comp.	-.09 ns		
				word reading	-.99 ($p<.05$)		Significant decline in self concept for children retained, while scores slightly increased for promoted students
				para reading	-.44 ns	-.43 ns	
				Total	-.64 ns	-.49 ns	
				vocab		-.30 ns	
				word study		-.32 ns	
				Self Concept	0 (ns)	-.52 ($p<.05$)	
Mossburg (1987) i.e.	Post hoc formation of comparison groups at fifth grade of those attending transitional class and those not attending	sex, SES, ability and age		SAT composite at	Same grade, diff. age		Readiness is not effective in long term, start out equivalent, no difference in grade 1, but then spread apart
				G1	0		
				G2	-.37		
				G3	-.48		
				G4	-.59		
Matthews (1977) instruction	Post hoc formation control groups G1 = eligible G3 = retained first E = transition		Same age E vs G3 Same grade E vs G1	Gates-Mac CAT -Total	Same age +.66 +.74	Same grade +.66 +.88	Maximum class size 15 diagnostic testing, individualized
Leinhardt (1980)	Targetted transition 44 transit 9 1st NRS 23 1st basal	screening reading difficulties	Equal time, unequal grade	SAT Total Reading	Basal -.41	NRS -1.07	Positive effects promotion; positive effects NRS, small number of cases